PRE DEVELOPMENT ARBORIST ASSESSMENT OF THE PROPOSED PARKES HOSPITAL SITE

David Scadding
B.Hort (env) C.Sturt
Steve McGraths Tree Service

17th September 2013

Site Description:

The proposed hospital development site is located on the southern edge of the Parkes township.

The site is approximately 10 hectares in area. It comprises c. 6/7 ha predominantly White Cypress Pine (Callitris glaucophylla) woodland on the eastern section of the site. The western third of the site facing the Newell Highway consists of planted rows of exotic and native species.

The site has a history of soil disturbance, illegal landfill, green waste and dumping of rubbish and is contributing to the extensive weed growth across the site.

Survey Method & Results:

All trees with a Diameter at Breast Height Over Bark (DBHOB) of greater than 20 cm were measured for DBHOB; crown diameter, habitat and forage values, faults within the tree structure, health and safety aspects and the suitability of the tree to become part of the retained landscape.
All trees surveyed > 20 cm were numbered and identified with fluorescent tape.
Trees with a DBHOB <20 cm were estimated using quadrat surveys.

Given the density of regrowth on the southern boundary; accurate identification of the boundary proved difficult, for this reason some surveyed trees may fall further than five metres outside the actual development site boundary.

329 trees above 20 cm DBHOB were surveyed (Appendix 1), 81 were planted native species and 46 introduced Pinus species, 210 naturally occurring White Cypress Pine, three naturally occurring White Box (*Eucalyptus albens*) and one White Cedar (*Melia azedarach)* a result of greenwaste dumping.

Of the older planted native species near the northern side and along the western boundary only six are of adequate health and form to be considered for retention. The plantings were established with inadequate space for complete development and from inferior or non provincial genetics.

46 introduced pine trees were surveyed with six of good form and health.

Of the 210 Cypress >20 cm DBHOB surveyed, only 16 had the potential characteristics to be included in an urban landscape.
Twelve of these were in the 20-35 cm DBHOB range of the cohort.

Tree survey map; appendix 2

Defects in the remainder included; damaged apex, co-dominant trunk and lower trunk damage, possibly from fire (Photo 1). Trees without defects may have been harvested for timber in the early stages of town development.

Photo 1

Lower trunk bark damage on common on many White Cypress Pine on the Parkes Hospital Development site

White Cypress pine numbers in the 10-20 cm DBHOB cohort were c. 70 per ha, across the eastern two thirds of the site or about 500 trees; seedlings to 10 cm DBH density ranged from a conservative 10,000 stems per ha to more than 50,000 stems per ha (see photo 2).

Photo 2

Dense White Cypress regrowth looking North West from the South East corner of the Parkes Hospital Development site

Biodiversity values of the Site:

The whole of the site is regarded as biodiverse under Parkes LEP 2012 with a high conservation area to the south east.

Adjacent landholdings to the east and south of the site contain box woodlands while the only naturally occurring eucalypt trees on site are three White Box on the south western side of the site. White Box (*E.albens*) and Inland Grey Box (*E.microcarpa*) are known secondary forage trees for the Koala (*Phascolarctos cinerus*) but the entire area is an isolated remnant and not of sufficient size to support a breeding pair of Koalas (DECC 2008).

The remainder of the development site is White Cypress Pine woodland and planted trees.

White Cypress pine is not a koala forage tree species and although koalas have been known to use them as refuge during inclement weather, (DECC 2008) there is no core or secondary habitat suitable for Koalas on the site.

White Cypress pine regenerates densely (see Photo 3) following removal of competition and changes to disturbance regimes such as clearing for firewood or building materials, removing rabbits, livestock grazing and fire eventually forming an alternate "locked up" status . This state of "lock up", reduces mid storey and ground cover diversity by reducing soil pH and out-competing other species for moisture, nutrients and light, (Central West & Western CMA 2010).

Photo 3

Thickly regenerating White Cypress Pine on the proposed Parkes Hospital Development site

Cypress pine are unlikely to develop hollows or support mistletoe species (Shelley 2005), providing only low habitat and biodiversity values to the site and this is supported in the survey. All planted trees were of insufficient age to create hollows

Previous clearing of the mid-storey and thick Cypress regeneration has reduced mid-storey species to less than 0.01% of total cover.

The only stick nests noted were in the Salmon Gums (*E.salmonophloia*)(tree no.'s 214, 234) on the western boundary and in a White Cypress tree (tree no. 16)on the Southern boundary, possibly in the adjacent lot.

Previous disturbances such as grazing, illegal landfill and green waste dumping, provided conditions for exotic weeds to occupy 50-100% of total ground-cover.

These previous disturbances have changed the biodiversity of the site to a suite of weeds and now requires active management to restore native biodiversity and ecosystem function across the site

Heritage values:

The site contains several rows of mature native, mostly indigenous species, planted on the western boundary and near the northern side of the site, possibly 30-40 years ago. No information could be found on these plantings but they may have been an early Department of Primary Industries demonstration/ research plot..

The trees were planted in close proximity to each other and not thinned or pruned at any later stage. This has resulted in defects and deformities in many trees in these avenues.

Plantings in from the boundary along the western side of the site conducted in the past ten years were instigated as 'work for the dole' and community engagement exercises with a view to improving biodiversity on the site but have no commemorative value to the community, (via email David Ramsey, Parkes Shire Council).

In the later plantings the tree species Mugga Ironbark (*E.sideroxylon*) were used; they are deformed and struggling in this landscape position. This may be the soil type is incorrect or poor genetics. There are also older planted specimens of Mugga Ironbark which are diseased, dead and dying but one tree was suitable for retention suggesting poor genetics.

Protection and replacement:

All trees on the proposed site provide only low habitat values, most of the large trees are exhibiting damages or defects and from a social,cultural or commemorative perspective have a low community value.

There is no issues with the removal of any trees required for the development of the Parkes Hospital Site except those within 50 metres of the eastern boundary retained as part of a wildlife corridor.

Areas forming part of the green landscape should be isolated where possible following guidelines in the Australian Standard, AS 4970-2009 Protection of trees on development sites.

Trees removed from greenspace areas should be undertaken with minimal soil disturbance and vehicular traffic to minimise soil compaction and weed growth.

Thickening Cypress in greenspace areas will need to be managed and should be thinned to 20 trees per hectare as well as retaining some clumps. Including widely spaced provincial Box Trees, indigenous shrubs and grasses into the landscape will improve biodiversity values with minimal maintenance.

To maintain connectivity and linkage across the eastern boundary all large trees in a 50 metre wildlife corridor should be retained. Some thinning of White Cypress clumps should be undertaken in this wildlife corridor.

A remnant woodland on the adjoining south west blocks contain White Box and Inland Grey Box and this should guide the shrub and tree selection.

References

Central West and Western Catchment Management Authorities, 2010. Managing invasive native scrub to rehabilitate native pastures and open woodlands-*A best management practice guide for the Central West and Western catchments, pp 54-55.* Central West Catchment Management Authority and Western Catchment Management Authority, Dubbo, NSW.

Department of Environment and Climate Change, 2008. Recovery Plan for the Koala (*Phascolarctos cinereus*) Department of Environment and Climate Change, Sydney, NSW

Shelly, D.,2005. *Hollow Occurrence in Selected Tree Species in the Central West Catchment of New South Wales.* Department of Infrastructure, Planning and Natural Resources, Dubbo, NSW.

Appendix 1

Tree number	*Botanical Name*	Common name	DBHOB in centimetres	Crown diameter in metres	Tree health and condition
1	*Callitris glaucophylla*	White Cypress Pine	16	3	Terminal apex damaged
2	*Callitris glaucophylla*	White Cypress Pine	18	4	Okay
3	*Callitris glaucophylla*	White Cypress Pine	41	6	Excavation around roots
4	*Callitris glaucophylla*	White Cypress Pine	15	4	Co-dominant trunk
5	*Callitris glaucophylla*	White Cypress Pine	20	5	Co-dominant trunk
6	*Callitris glaucophylla*	White Cypress Pine	22	4	Co-dominant trunk
7	*Callitris glaucophylla*	White Cypress Pine	14	4	Co-dominant trunk
8	*Melia azedarach*	White Cedar	8	5	A result of green waste dumping
9	*Callitris glaucophylla*	White Cypress Pine	44	6	Co-dominant trunk, damaged
10	*Callitris glaucophylla*	White Cypress Pine	51	7	Split in trunk base/ decay noted
11	*Callitris glaucophylla*	White Cypress Pine	40	5	Terminal apex damaged, lower trunk damage
12	*Callitris glaucophylla*	White Cypress Pine	45	7	Co-dominant trunk, multi-stem
13	*Callitris glaucophylla*	White Cypress Pine	30	5	Co-dominant trunk
14	*Callitris glaucophylla*	White Cypress Pine	28	4	Damaged Apex
15	*Callitris glaucophylla*	White Cypress Pine	44	5	Damaged Apex
16	*Callitris glaucophylla*	White Cypress Pine	35	5	Stick nest in Apex. Okay
17	*Callitris glaucophylla*	White Cypress Pine	38	4	Bark damage on lower trunk
18	*Callitris glaucophylla*	White Cypress Pine	50	6	Trunk cracks-decay/fungus evident
19	*Callitris glaucophylla*	White Cypress Pine	33	4	Okay
20	*Callitris glaucophylla*	White Cypress Pine	28	3	Bark lifting/Decay/fungus/damaged apex
21	*Callitris glaucophylla*	White Cypress Pine	33	4	Curve in trunk- decay/fungus
22	*Callitris glaucophylla*	White Cypress Pine	31	5	Co-dominant trunk- decay/fungus
23	*Callitris glaucophylla*	White Cypress Pine	30	3	Damaged Apex
24	*Callitris glaucophylla*	White Cypress Pine	17	3	Bark damage at base
25	*Callitris glaucophylla*	White Cypress Pine	40	6	Co-dominant trunk – 6m upward
26	*Callitris glaucophylla*	White Cypress Pine	60	7	Co-dominant trunk- 3 stems:1 dead
27	*Callitris glaucophylla*	White Cypress Pine	25	3	Co-dominant trunk- bark damage at base, fungus/ decay
28	*Callitris glaucophylla*	White Cypress Pine	30	4	Okay
29	*Callitris glaucophylla*	White Cypress Pine	38	5	Apex damage
30	*Callitris glaucophylla*	White Cypress Pine	35	6	Co-dominant trunk /damage
31	*Callitris glaucophylla*	White Cypress Pine	38	6	Okay- dead lower limbs typical of cypress
32	*Callitris glaucophylla*	White Cypress Pine	25	4	30° from vertical, lower bark damage
33	*Callitris glaucophylla*	White Cypress Pine	26	5	co-dominant trunk, lower bark damage, fungus
34	*Callitris glaucophylla*	White Cypress Pine	28	4	Co-dominant trunk: twisted
35	*Callitris glaucophylla*	White Cypress Pine	30	5	10° lean, lower bark damage, fungus
36	*Callitris glaucophylla*	White Cypress Pine	20	3	Co-dominant trunk- lower bark damage
37	*Callitris glaucophylla*	White Cypress Pine	25	4	Bark damage at base- fungus
38	*Callitris glaucophylla*	White Cypress Pine	45	6	Co-dominant trunk
39	*Callitris glaucophylla*	White Cypress Pine	28	5	Co-dominant trunk, bark damage, fungus
40	*Callitris glaucophylla*	White Cypress Pine	28	5	Trunk twisted
41	*Callitris glaucophylla*	White Cypress Pine	25	2	Dead apex, one live branch
42	*Callitris glaucophylla*	White Cypress Pine	32	7	Co-dominant trunk
43	*Callitris glaucophylla*	White Cypress Pine	22	6	Co-dominant trunk- lower bark damage
44	*Callitris glaucophylla*	White Cypress Pine	23	3	Lower bark damage: 20° lean
45	*Callitris glaucophylla*	White Cypress Pine	25	3	10° lean, lower bark damage
46	*Callitris glaucophylla*	White Cypress Pine	38	7	Co-dominant trunk: 4m upward
47	*Callitris glaucophylla*	White Cypress Pine	21	3	Lower bark damage: 10° lean: fungus
48	*Callitris glaucophylla*	White Cypress Pine	25	4	Lower bark damage: Upper trunk deviation
49	*Callitris glaucophylla*	White Cypress Pine	22	3	Lower trunk damage: co-dominant
50	*Callitris glaucophylla*	White Cypress Pine	18	3	Lower bark damage: co-dominant
51	*Callitris glaucophylla*	White Cypress Pine	21	3	Co-dominant crown
52	*Callitris glaucophylla*	White Cypress Pine	28	3	Co-dominant/ Lower bark damage: twisted trunk
53	*Callitris glaucophylla*	White Cypress Pine	25	4	Crown one sided: proximity to next tree
54	*Callitris glaucophylla*	White Cypress Pine	45	5	Co-dominant trunk
55	*Callitris glaucophylla*	White Cypress Pine	48	5	Crown damage: apex missing
56	*Callitris glaucophylla*	White Cypress Pine	35	6	Crown damage:
57	*Callitris glaucophylla*	White Cypress Pine	35	5	Co-dominant apex
58	*Callitris glaucophylla*	White Cypress Pine	33	5	Lower bark damage
59	*Callitris glaucophylla*	White Cypress Pine	45	5	Lower bark damage: co-dominant
60	*Callitris glaucophylla*	White Cypress Pine	37	4	Lower bark damage- decay
61	*Callitris glaucophylla*	White Cypress Pine	43	5	Okay- co-dominant apex
62	*Callitris glaucophylla*	White Cypress Pine	50	6	Lower bark damage: co-dominant: 10° lean
63	*Callitris glaucophylla*	White Cypress Pine	52	5	Major damage, lower trunk- co-dominant trunk split away
64	*Callitris glaucophylla*	White Cypress Pine	28	4	Lower bark damage: twisted trunk
65	*Callitris glaucophylla*	White Cypress Pine	52	4	Lower bark damage: limb tear on trunk
66	*Callitris glaucophylla*	White Cypress Pine	45	5	Lower bark damage: co-dominant: apex dead
67	*Callitris glaucophylla*	White Cypress Pine	30	4	Okay
68	*Callitris glaucophylla*	White Cypress Pine	25	3	Okay
69	*Callitris glaucophylla*	White Cypress Pine	42	5	Co-dominant: apex damaged
70	*Callitris glaucophylla*	White Cypress Pine	29	4	Co-dominant
71	*Callitris glaucophylla*	White Cypress Pine	27	3	Lower bark damage: co-dominant
72	*Callitris glaucophylla*	White Cypress Pine	18	3	Lower bark damage: Apex broken
73	*Callitris glaucophylla*	White Cypress Pine	26	3	Lower bark damage
74	*Callitris glaucophylla*	White Cypress Pine	33	4	Lower bark damage: co-dominant

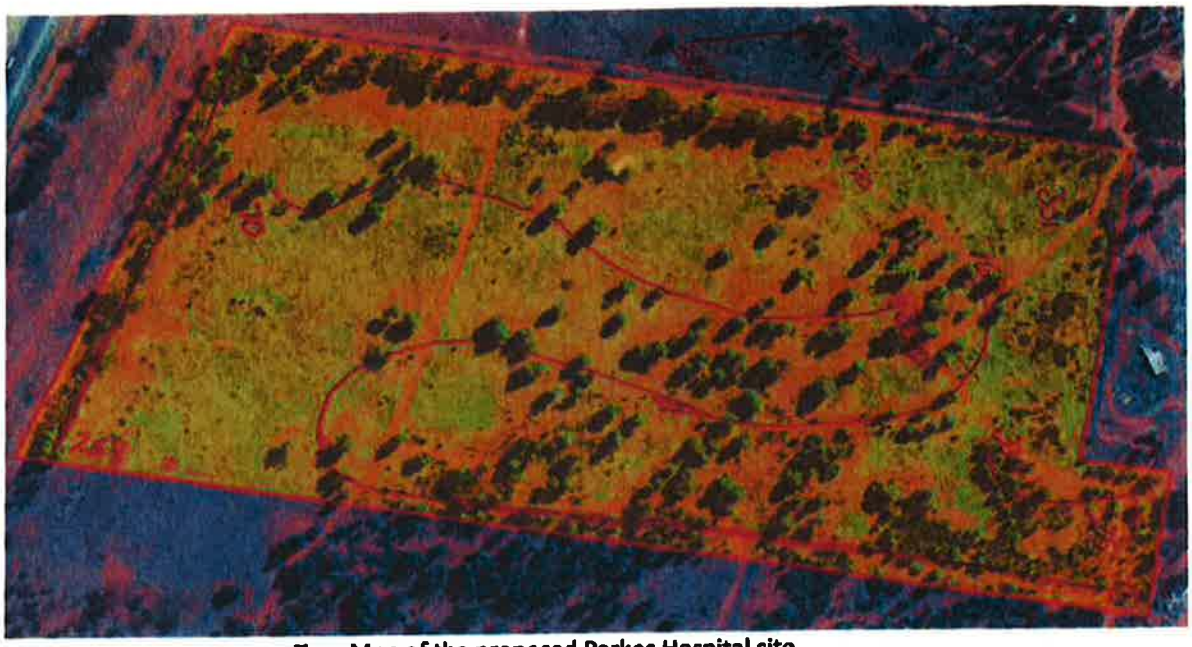
75	*Callitris glaucophylla*	White Cypress Pine	36	5	Co-dominant apex
76	*Callitris glaucophylla*	White Cypress Pine	57	7	Lower bark damage: co-dominant
77	*Callitris glaucophylla*	White Cypress Pine	48	6	Lower bark damage: co-dominant
78	*Callitris glaucophylla*	White Cypress Pine	45	6	Co-dominant
79	*Callitris glaucophylla*	White Cypress Pine	40	5	Okay
80	*Callitris glaucophylla*	White Cypress Pine	42	5	Lower bark damage
81	*Callitris glaucophylla*	White Cypress Pine	41	4	Lower bark damage
82	*Callitris glaucophylla*	White Cypress Pine	38	4	Lower bark damage: twisted trunk
83	*Callitris glaucophylla*	White Cypress Pine	32	4	Lower bark damage
84	*Callitris glaucophylla*	White Cypress Pine	45	6	Co-dominant apex Twisted trunk
85	*Callitris glaucophylla*	White Cypress Pine	43	7	Co-dominant
86	*Callitris glaucophylla*	White Cypress Pine	42	5	Okay
87	*Callitris glaucophylla*	White Cypress Pine	48	7	Co-dominant apex Lower trunk decay
88	*Callitris glaucophylla*	White Cypress Pine	40	5	Lower bark damage
89	*Callitris glaucophylla*	White Cypress Pine	42	6	Lower bark damage
90	*Callitris glaucophylla*	White Cypress Pine	40	5	Lower bark damage
91	*Callitris glaucophylla*	White Cypress Pine	31	4	Co-dominant
92	*Callitris glaucophylla*	White Cypress Pine	35	5	Co-dominant
93	*Callitris glaucophylla*	White Cypress Pine	20	3	Damaged Apex
94	*Callitris glaucophylla*	White Cypress Pine	22	3	Damaged Apex
95	*Callitris glaucophylla*	White Cypress Pine	38	4	Lower bark damage
96	*Callitris glaucophylla*	White Cypress Pine	45	6	Lower bark damage
97	*Callitris glaucophylla*	White Cypress Pine	22	4	Co-dominant apex
98	*Callitris glaucophylla*	White Cypress Pine	55	8	Lower bark damage Branch hanger
99	*Callitris glaucophylla*	White Cypress Pine	56	4	Co-dominant Lower bark damage
100	*Callitris glaucophylla*	White Cypress Pine	56	4	Lower bark damage Damaged apex
101	*Callitris glaucophylla*	White Cypress Pine	47	5	Twisted trunk
102	*Callitris glaucophylla*	White Cypress Pine	47	5	Twisted trunk Co-dominant
103	*Callitris glaucophylla*	White Cypress Pine	43	4	Okay
104	*Callitris glaucophylla*	White Cypress Pine	48	5	Co-dominant
105	*Callitris glaucophylla*	White Cypress Pine	46	6	Co-dominant apex Trunk decay
106	*Callitris glaucophylla*	White Cypress Pine	55	6	Twisted trunk
107	*Callitris glaucophylla*	White Cypress Pine	51	6	Damaged Apex
108	*Callitris glaucophylla*	White Cypress Pine	48	6	Co-dominant Lower bark damage
109	*Callitris glaucophylla*	White Cypress Pine	46	6	Lower bark damage Damaged apex
110	*Callitris glaucophylla*	White Cypress Pine	45	6	Co-dominant crown
111	*Callitris glaucophylla*	White Cypress Pine	43	6	Co-dominant Lower bark damage
112	*Callitris glaucophylla*	White Cypress Pine	45	5	Damaged Apex
113	*Callitris glaucophylla*	White Cypress Pine	3	5	Damaged Apex
114	*Callitris glaucophylla*	White Cypress Pine	41	5	Damaged Apex Lower bark damage
115	*Callitris glaucophylla*	White Cypress Pine	35	3	Lower bark damage
116	*Callitris glaucophylla*	White Cypress Pine	45	6	Co-dominant apex
117	*Callitris glaucophylla*	White Cypress Pine	48	6	Damaged Apex
118	*Callitris glaucophylla*	White Cypress Pine	47	7	Twisted trunk
119	*Callitris glaucophylla*	White Cypress Pine	52	6	Lower bark damage 10° lean from vertical
120	*Callitris glaucophylla*	White Cypress Pine	48	5	Lower bark damage 15° lean from vertical
121	*Callitris glaucophylla*	White Cypress Pine	43	6	Co-dominant
122	*Callitris glaucophylla*	White Cypress Pine	45	6	Co-dominant apex Branch tear mid trunk
123	*Callitris glaucophylla*	White Cypress Pine	42	4	Co-dominant Lower bark damage
124	*Callitris glaucophylla*	White Cypress Pine	41	5	Co-dominant apex
125	*Callitris glaucophylla*	White Cypress Pine	28	4	Lower bark damage Twisted trunk
126	*Callitris glaucophylla*	White Cypress Pine	31	5	Twisted trunk
127	*Callitris glaucophylla*	White Cypress Pine	32	4	Twisted trunk Dead branch stub at base of trunk
128	*Callitris glaucophylla*	White Cypress Pine	52	6	Co-dominant Lower bark damage
129	*Callitris glaucophylla*	White Cypress Pine	33	4	Lower bark damage
130	*Callitris glaucophylla*	White Cypress Pine	32	3	Co-dominant Lower bark damage
131	*Callitris glaucophylla*	White Cypress Pine	43	6	Lower bark damage 10° lean from vertical
132	*Callitris glaucophylla*	White Cypress Pine	41	5	Damaged Apex
133	*Callitris glaucophylla*	White Cypress Pine	35	4	Damaged Apex
134	*Callitris glaucophylla*	White Cypress Pine	42	5	Co-dominant apex Twisted trunk
135	*Callitris glaucophylla*	White Cypress Pine	28	3	Co-dominant Lower bark damage
136	*Callitris glaucophylla*	White Cypress Pine	46	7	Co-dominant apex Branch tear mid trunk
137	*Callitris glaucophylla*	White Cypress Pine	43	6	Co-dominant Twisted trunk
138	*Callitris glaucophylla*	White Cypress Pine	36	4	Co-dominant apex
139	*Callitris glaucophylla*	White Cypress Pine	50	7	Trunk decay
140	*Callitris glaucophylla*	White Cypress Pine	30	4	Lower bark damage Twisted trunk
141	*Callitris glaucophylla*	White Cypress Pine	47	5	Lower bark damage Damaged apex Nails in trunk
142	*Callitris glaucophylla*	White Cypress Pine	48	6	Co-dominant
143	*Callitris glaucophylla*	White Cypress Pine	47	6	Lower bark damage Twisted trunk
144	*Callitris glaucophylla*	White Cypress Pine	51	7	Lower bark damage
145	*Callitris glaucophylla*	White Cypress Pine	32	5	Co-dominant apex Lower bark damage
146	*Callitris glaucophylla*	White Cypress Pine	34	6	Twisted trunk 10° lean from vertical
147	*Callitris glaucophylla*	White Cypress Pine	35	6	Twisted trunk split with decay
148	*Callitris glaucophylla*	White Cypress Pine	71	9	Co-dominant Lower bark damage
149	*Callitris glaucophylla*	White Cypress Pine	55	7	Co-dominant Lower bark damage
150	*Callitris glaucophylla*	White Cypress Pine	30	2	Co-dominant One leader damaged
151	*Callitris glaucophylla*	White Cypress Pine	54	6	Co-dominant Lower bark damage
152	*Callitris glaucophylla*	White Cypress Pine	35	5	45° lean
153	*Callitris glaucophylla*	White Cypress Pine	33	4	Lower bark damage 10° lean from vertical
154	*Callitris glaucophylla*	White Cypress Pine	47	7	Mid trunk branch tear

155	*Callitris glaucophylla*	White Cypress Pine	49	5	Lower bark damage 25° lean from vertical
156	*Callitris glaucophylla*	White Cypress Pine	52	6	Lower bark damage 10° lean from vertical
157	*Callitris glaucophylla*	White Cypress Pine	48	7	Damaged Apex Twisted trunk
158	*Callitris glaucophylla*	White Cypress Pine	46	6	Lower bark damage Damaged apex
159	*Callitris glaucophylla*	White Cypress Pine	46	7	Lower bark damage Damaged apex
160	*Callitris glaucophylla*	White Cypress Pine	47	5	Co-dominant Barbed wire embedded in trunk
161	*Callitris glaucophylla*	White Cypress Pine	60	8	Co-dominant apex Lower bark damage
162	*Callitris glaucophylla*	White Cypress Pine	45	6	Lower bark damage
163	*Acacia pendula*	Weeping Myall	20	5	Multi stem
164	*Callitris glaucophylla*	White Cypress Pine	45	5	Lower bark damage
165	*Callitris glaucophylla*	White Cypress Pine	35	3	Lower bark damage Damaged apex
166	*Callitris glaucophylla*	White Cypress Pine	38	4	Co-dominant
167	*Callitris glaucophylla*	White Cypress Pine	36	5	Lower bark damage
168	*Pinus halepensis*	Allepo Pine	35	6	Crown sweep to East: Branch deficiency Western side
169	*Eucalyptus sideroxylon*	Mugga Ironbark	55	6	Include branch forks
170	*Eucalyptus sideroxylon*	Mugga Ironbark	60	8	Co-dominant; included bark
171	*Eucalyptus sideroxylon*	Mugga Ironbark	50	3	Lower bark damage; severe dieback
172	*Eucalyptus sideroxylon*	Mugga Ironbark	45	5	Co-dominant: Severe inclusion
173	*Eucalyptus sideroxylon*	Mugga Ironbark	48	2	Lower bark damage; Severe dieback; extensive borer damage
174	*Eucalyptus sideroxylon*	Mugga Ironbark	30	4	Co-dominant; basal sucker
175	*Pinus halepensis*	Allepo Pine	48	8	Okay
176	*Pinus halepensis*	Allepo Pine	32	6	Crown sweep to north-west 15°
177	*Eucalyptus sideroxylon*	Mugga Ironbark	49	6	Okay; small inclusions
178	*Casurina cristata*	Belah	33	4	Co-dominant crown
179	*Eucalyptus cladocalxy*	Sugar Gum	48	12	Vandal damage lower trunk
180	*Callitris glaucophylla*	White Cypress Pine	45	5	Co-dominant – apex damage
181	*Eucalyptus sideroxylon*	Mugga Ironbark	46	7	Upper inclusion
182	*Schinus areira*	Peppercorn	30	8	Multi stem
183	*Eucalyptus sideroxylon*	Mugga Ironbark	33	5	Multiple inclusions
184	*Pinus halepensis*	Allepo Pine	25	4	Trunk sweep south east
185	*Eucalyptus sideroxylon*	Mugga Ironbark	36	8	Co-dominant; included bark
186	*Casurina cristata*	Belah	32	5	Basal branch: upper co-dominant
187	*Casurina cristata*	Belah	25	5	Multiple basal branches, stems
188	*Eucalyptus sideroxylon*	Mugga Ironbark	25	7	Co-dominant;inclusion severe
189	*Pinus canariensis*	Canary Island Pine	40	6	10° sweep to south-east
190	*Pinus canariensis*	Canary Island Pine	28	3	Tip dieback; epicormic growth
191	*Eucalyptus melliodora*	Yellowbox	62	7	Severe dieback
192	*Eucalyptus melliodora*	Yellowbox	45	11	Co-dominant inclusion
193	*Pinus canariensis*	Canary Island Pine	25	3	Okay
194	*Eucalyptus melliodora*	Yellowbox	65	12	Co-dominant; included bark
195	*Pinus canariensis*	Canary Island Pine	20	2	Okay
196	*Pinus canariensis*	Canary Island Pine	20	2	Okay
197	*Eucalyptus melliodora*	Yellowbox	55	11	Co-dominant included bark
198	*Eucalyptus sideroxylon*	Mugga Ironbark	40	8	Co-dominant included bark
199	*Eucalyptus sideroxylon*	Mugga Ironbark	42	6	Dieback-co-dominant included bark
200	*Eucalyptus melliodora*	Yellowbox	62	15	Multi stem inclusions
201	*Eucalyptus melliodora*	Yellowbox	55	13	Occluded bark; okay
202	*Eucalyptus sideroxylon*	Mugga Ironbark	32	9	Co-dominant included
203	*Eucalyptus melliodora*	Yellowbox	30	6	Co-dominant included
204	*Eucalyptus melliodora*	Yellowbox	110	15	Co-dominant included
205	*Eucalyptus melliodora*	Yellowbox	70	16	Minor dieback, otherwise okay; possible fungal disease
206	*Pinus canariensis*	Canary Island Pine	35	6	Tip dieback;
207	*Pinus canariensis*	Canary Island Pine	30	6	Tip dieback;
208	*Pinus canariensis*	Canary Island Pine	25	4	Tip dieback;; apex damage
209	*Eucalyptus sideroxylon*	Mugga Ironbark	28	5	Co-dominant included bark
210	*Eucalyptus melliodora*	Yellowbox	58	15	Minor tip dieback; otherwise okay
211	*Eucalyptus sideroxylon*	Mugga Ironbark	55	10	Co-dominant inclusion
212	*Casurina cristata*	Belah	28	3	Co-dominant
213	*Eucalyptus melliodora*	Yellowbox	100	8	Severe pruning for powerline; multi-stem inclusion
214	*Eucalyptus salmonophloia*	Salmon Gum	38	18	Multi stem; stick nests
215	*Eucalyptus melliodora*	Yellowbox	50	15	Co-dominant; severely pruned for powerline
216	*Eucalyptus melliodora*	Yellowbox	53	15	Co-dominant; severely pruned for powerline
217	*Eucalyptus melliodora*	Yellowbox	48	18	Co-dominant; severely pruned for powerline
218	*Eucalyptus melliodora*	Yellowbox	54	14	Co-dominant; severely pruned for powerline
219	*Eucalyptus melliodora*	Yellowbox	40	8	Tip dieback; severely pruned for powerline
220	*Eucalyptus melliodora*	Yellowbox	40	12	Multi stem; severely pruned for powerline
221	*Eucalyptus melliodora*	Yellowbox	58	18	Multi stem; severely pruned for powerline
222	*Eucalyptus melliodora*	Yellowbox	30	6	Co-dominant; borers
223	*Eucalyptus melliodora*	Yellowbox	33	8	Co-dominant;trunk crack
224	*Eucalyptus melliodora*	Yellowbox	38	7	Co-dominant;
225	*Pinus canariensis*	Canary Island Pine	25	5	Co-dominant; Rung- not dead
226	*Pinus canariensis*	Canary Island Pine	26	3	Asymmetric- proximity to next tree
227	*Pinus canariensis*	Canary Island Pine	35	5	Tip dieback;
228	*Pinus canariensis*	Canary Island Pine	30	5	Co-dominant
229	*Pinus canariensis*	Canary Island Pine	30	6	Co-dominant
230	*Pinus canariensis*	Canary Island Pine	38	7	Okay
231	*Pinus canariensis*	Canary Island Pine	45	9	Co-dominant

232	*Pinus halepensis*	Allepo Pine	29	3	20º lean east
233	*Eucalyptus salmonophloia*	Salmon Gum	40	9	Asymmetric- dieback on western side, competition for light
234	*Eucalyptus salmonophloia*	Salmon Gum	38	10	Co-dominant; some dieback, stick nest
235	*Eucalyptus sideroxylon*	Mugga Ironbark	28	4	10º lean east; poor specimen, upper inclusion
236	*Eucalyptus sideroxylon*	Mugga Ironbark	29	5	Inclusions
237	*Eucalyptus sideroxylon*	Mugga Ironbark	26	6	Severe dieback; co-dominant
238	*Pinus canariensis*	Canary Island Pine	27	3	Trunk sweep 20º south
239	*Eucalyptus sideroxylon*	Mugga Ironbark	45	6	Co-dominant; tip dieback
240	*Eucalyptus sideroxylon*	Mugga Ironbark	39	5	Borer attack; dieback
241	*Eucalyptus melliodora*	Yellowbox	20	3	Co-dominant inclusion
242	*Pinus halepensis*	Allepo Pine	25	4	15º lean east; competition
243	*Eucalyptus cladocalxy*	Sugar Gum	27	12	Co-dominant; diback
244	*Eucalyptus cladocalxy*	Sugar Gum	38	14	15º lean east; dieback
245	*Casurina cristata*	Belah	35	4	Co-dominant upper branches; otherwise okay
246	*Eucalyptus cladocalxy*	Sugar Gum	25	8	Co-dominant; tip dieback
247	*Eucalyptus sideroxylon*	Mugga Ironbark	n/a	n/a	Dead.
248	*Eucalyptus sideroxylon*	Mugga Ironbark	32	3	Severe dieback
249	*Eucalyptus salmonophloia*	Salmon Gum	38	10	Multi stem; okay
250	*Eucalyptus salmonophloia*	Salmon Gum	36	10	Multi stem; dieback
251	*Eucalyptus melliodora*	Yellowbox	35	12	Co-dominant; asymmetric
252	*Eucalyptus melliodora*	Yellowbox	40	11	Mid trunk branch tear
253	*Eucalyptus melliodora*	Yellowbox	28	9	Epicormic growth
254	*Eucalyptus melliodora*	Yellowbox	28	10	Co-dominant; lower limb breakage
255	*Eucalyptus melliodora*	Mugga Ironbark	26	5	Borer attack;co-dominant apex
256	*Eucalyptus melliodora*	Yellowbox	20	8	Co-dominant; asymmetric
257	*Eucalyptus melliodora*	Yellowbox	31	7	Twisted trunk; dieback
258	*Eucalyptus sideroxylon*	Mugga Ironbark	49	11	Dieback-borer attack
259	*Eucalyptus sideroxylon*	Mugga Ironbark	29	6	Asymmetric- borer attack
260	*Eucalyptus sideroxylon*	Mugga Ironbark	26	5	Co-dominant; borer attack
261	*Pinus canariensis*	Canary Island Pine	28	6	Co-dominant
262	*Pinus canariensis*	Canary Island Pine	23	5	10º trunk sweep to east
263	*Pinus canariensis*	Canary Island Pine	21	3	10º trunk sweep to east; inner dieback, shade
264	*Pinus canariensis*	Canary Island Pine	33	4	Eastern side branch dieback, shade
265	*Pinus canariensis*	Canary Island Pine	39	4	20º lean west, eastern side branch dieback, shade
266	*Pinus canariensis*	Canary Island Pine	32	3	Eastern side branch dieback, shade
267	*Pinus canariensis*	Canary Island Pine	35	5	10º lean to east, co-dominant apex
268	*Pinus canariensis*	Canary Island Pine	32	4	Eastern side branch dieback, shade
269	*Pinus canariensis*	Canary Island Pine	32	5	10º lean south, competition
270	*Pinus canariensis*	Canary Island Pine	35	5	Okay
271	*Pinus canariensis*	Canary Island Pine	32	4	5º lean south-east. Okay
272	*Pinus canariensis*	Canary Island Pine	48	8	Lower bark damage
273	*Pinus canariensis*	Canary Island Pine	47	8	Okay
274	*Pinus canariensis*	Canary Island Pine	45	5	Trunk sweep, damaged apex
275	*Pinus canariensis*	Canary Island Pine	47	5	Co-dominant
276	*Pinus canariensis*	Canary Island Pine	46	6	Some tip dieback & branch damage
277	*Pinus canariensis*	Canary Island Pine	25	4	Co-dominant
278	*Pinus canariensis*	Canary Island Pine	38	4	Branch dieback
279	*Pinus canariensis*	Canary Island Pine	42	4	Okay
280	*Pinus canariensis*	Canary Island Pine	44	5	Okay
281	*Pinus canariensis*	Canary Island Pine	47	5	D fungal attack on lower trunk
282	*Pinus canariensis*	Canary Island Pine	46	6	Okay
283	*Callitris glaucophylla*	White Cypress Pine	59	7	Co-dominant
284	*Callitris glaucophylla*	White Cypress Pine	57	6	Co-dominant
285	*Acacia Sp.*	Wattle	20	6	Multi stem; included bark, tip dieback, senescent, surrounded by regeneration
286	*Callitris glaucophylla*	White Cypress Pine	52	7	Mid trunk branch tear, twisted upper trunk
287	*Eucalyptus melliodora*	Yellowbox	25	5	Co-dominant with bad suckers
288	*Eucalyptus melliodora*	Yellowbox	30	6	Co-dominant; borer attack
289	*Callitris glaucophylla*	White Cypress Pine	48	6	Co-dominant; mid trunk large branch damage, wire around trunk
290	*Callitris glaucophylla*	White Cypress Pine	49	7	Lower bark damage; co-dominant
291	*Callitris glaucophylla*	White Cypress Pine	35	6	Co-dominant
292	*Callitris glaucophylla*	White Cypress Pine	42	6	Twisted trunk; apex damage, co-dominant mid trunk
293	*Callitris glaucophylla*	White Cypress Pine	43	7	Lower bark damage; broken crown
294	*Callitris glaucophylla*	White Cypress Pine	44	6	Co-dominant; barbed wire in trunk
295	*Callitris glaucophylla*	White Cypress Pine	42	4	Lower bark damage; see Photo
296	*Callitris glaucophylla*	White Cypress Pine	25	2	Broken crown
297	*Callitris glaucophylla*	White Cypress Pine	28	4	Mid trunk damage; branch tear
298	*Callitris glaucophylla*	White Cypress Pine	41	5	Twisted trunk
299	*Callitris glaucophylla*	White Cypress Pine	43	8	Lower bark damage; co-dominant
300	*Callitris glaucophylla*	White Cypress Pine	52	7	Co-dominant; lower bark damage
301	*Callitris glaucophylla*	White Cypress Pine	44	6	Co-dominant; mid trunk, lower branch damage
302	*Callitris glaucophylla*	White Cypress Pine	48	5	Twisted trunk
303	*Callitris glaucophylla*	White Cypress Pine	46	5	Lower bark damage; damaged apex
304	*Callitris glaucophylla*	White Cypress Pine	45	5	Lower bark damage, co-dominant mid trunk, barbed wire in trunk
305	*Callitris glaucophylla*	White Cypress Pine	21	3	Okay
306	*Callitris glaucophylla*	White Cypress Pine	32	4	Okay
307	*Callitris glaucophylla*	White Cypress Pine			Recording error

308	*Callitris glaucophylla*	White Cypress Pine	21	2	Lower bark damage
309	*Callitris glaucophylla*	White Cypress Pine	36	4	Lower trunk decay
310	*Callitris glaucophylla*	White Cypress Pine	32	5	Co-dominant; severe dieback, root disturbance
311	*Callitris glaucophylla*	White Cypress Pine	32	6	Co-dominant
312	*Callitris glaucophylla*	White Cypress Pine	33	5	Co-dominant mid trunk
313	*Callitris glaucophylla*	White Cypress Pine	30	5	Okay
314	*Callitris glaucophylla*	White Cypress Pine	38	6	Apex damage
315	*Callitris glaucophylla*	White Cypress Pine	25	4	Co-dominant mid trunk
316	*Callitris glaucophylla*	White Cypress Pine	22	5	Co-dominant
317	*Callitris glaucophylla*	White Cypress Pine	20	5	Co-dominant
318	*Callitris glaucophylla*	White Cypress Pine	25	4	Co-dominant
319	*Callitris glaucophylla*	White Cypress Pine	30	5	Damaged Apex
320	*Callitris glaucophylla*	White Cypress Pine	25	3	Trunk twisted
321	*Callitris glaucophylla*	White Cypress Pine	20	3	10° lean south-east
322	*Callitris glaucophylla*	White Cypress Pine	28	4	Crown dead
323	*Callitris glaucophylla*	White Cypress Pine	32	5	Okay
324	*Callitris glaucophylla*	White Cypress Pine	30	5	Okay
325	*Callitris glaucophylla*	White Cypress Pine	23	4	Okay
326	*Callitris glaucophylla*	White Cypress Pine	26	4	Co-dominant
327	*Callitris glaucophylla*	White Cypress Pine	32	5	Okay
328	*Callitris glaucophylla*	White Cypress Pine	31	5	Damaged Apex
329	*Eucalyptus albens*	White Box	25	6	Multi stem
330	*Acacia pendula*	Weeping Myall	18	4	Co-dominant
331	*Callitris glaucophylla*	White Cypress Pine	45	5	Lower bark damage; severe dieback.
332	*Callitris glaucophylla*	White Cypress Pine	32	5	Okay
333	*Callitris glaucophylla*	White Cypress Pine	32	5	Co-dominant
334	*Eucalyptus albens*	White Box	38	10	One large basal sucker; borer attack
335	*Eucalyptus albens*	White Box	32	8	Co-dominant; borer attack

Appendix 2



Tree Map of the proposed Parkes Hospital site